

**REMARKS**

Favorable reconsideration of the application is respectfully requested in light of the amendments and remarks herein.

Upon entry of this amendment, claims 1-34 will be pending. By this amendment, claims 1, 7, 20, and 23 have been amended; and claim 34 has been added. No new matter has been added.

**§102 Rejection of Claims 1-23 and 26-33**

In Section 6 of the Office Action, the Examiner has rejected claims 1-23 and 26-33 under 35 U.S.C. §102(b) as being anticipated by Etoh (U.S. Patent No. 5,519,789).

In the Background section of the Specification, it was disclosed that "detecting the orientation of a face of a human being" using conventional methods and systems is a very difficult task. *Page 2, lines 11-21 of the Specification.*

To solve this difficulty, embodiments of the present invention provide apparatuses and methods for generating representative sample data of each of a plurality of groups based on a plurality of sample data initially classified into the plurality of groups. Further, the apparatuses and methods determine the group feature data of each of a plurality of groups prevailing at the time of the convergence as representative sample data of each group.

For example, the structure of apparatus claim 1, as presented herein, includes

*“group feature data detection means for determining group feature data representing feature of sample data in said each group;*

*distance detection means for detecting the distances between the sample data and the group feature data of said each group;*

*re-classification means for re-classifying all of said sample data into said plurality of groups based on said distances;*

*convergence detection means* for detecting whether or not the number of sample data classified into groups different from each previous group is converged as a result of said re-classification; and

*decision means* for repeating the processing by said group feature data detection means, re-classification means, and said convergence detection means until said convergence detection means has detected convergence based on said number of sample data, and

for determining the group feature data of said each group prevailing at the time of said convergence as representative sample data of said each group."

(emphasis added)

It is indicated that Etoh teaches convergence detection until a certain condition is satisfied (col. 7, lines 8-23). However, Etoh merely teaches repeating to select minimal distance class among certain number of classes ( $1 \leq i \leq 100$ ) for each sample vector  $X_k$ . Etoh does not teach determining the convergence based on the number of times of reclassification of sample vectors, such as  $X_1, X_2, \dots, X_{100}$ . It is stated in column 7, lines 3-6 of Etoh that the repetition is done during the operation of one cycle from the input of the  $k$ -th sample vector to the input of the  $k+1$ -th sample vector.

The structure of apparatus claim 23 includes

"*distance detection means* for detecting distance between input sample data and each representative sample data generated previously for each of a plurality of groups;

*classification means* for classifying said input sample data into one of said classes, based on the distances of said input sample data from representative sample data of said plural groups; and

*sample feature data generating means* for generating sample feature data representing the feature, which is based on orientation, of said input sample data in accordance with a system pre-set for each class." (emphasis added)

Regarding claim 23, although Etoh teaches clustering images Etoh fails to teach generating sample feature data representing the feature based on orientation.

Based on the foregoing discussion, claims 1 and 23 should be allowable over Etoh.

Further, since independent claims 7-9, 12-22, and 29-33 closely parallel, and include substantially similar limitations as, claims 1 and 23, claims 7-9, 12-22, and 29-33 should also be allowable over Etoh. Since claims 2-6, 10-11, and 24-28 depend from claims 1, 9, and 23, respectively, claims 2-6, 10-11, and 24-28 should also be allowable over Etoh.

Accordingly, it is submitted that the Examiner's rejection of claims 1-23 and 26-33 based upon 35 U.S.C. §102(b) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

#### §103 Rejection of Claims 24 and 25

In Section 8 of the Office Action, the Examiner has rejected claims 24 and 25 under 35 U.S.C. §103(a) as being unpatentable over Etoh, in view of Kondo (U.S. Patent No. 5,966,183).

Since claims 24 and 25 depend from independent claim 23, claims 24 and 25 should be allowable over Etoh. It is indicated that Kondo teaches generating the prediction equation. Thus, Etoh and Kondo, individually or in combination, fail to teach or suggest all the limitations of claim 23. Therefore, claims 24 and 25 should be allowable over the combination of Etoh and Kondo.

Accordingly, it is submitted that the Examiner's rejection of claims 24 and 25 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Newly-added Claim 34

Based on the foregoing discussion, and since claim 34 depends from independent claim 20, claim 34 should be allowable over the cited prior art references.

Conclusion

In view of the foregoing, entry of this amendment, and the allowance of this application with claims 1-34 are respectfully solicited.

In regard to the claims amended herein and throughout the prosecution of this application, it is submitted that these claims, as originally presented, were patentably distinct over the prior art of record, and that these claims were in full compliance with the requirements of 35 U.S.C. §112. Changes that have been made to these claims were not made for the purpose of patentability within the meaning of 35 U.S.C. §§101, 102, 103 or 112. Rather, these changes were made simply for clarification and to round out the scope of protection to which Applicant is entitled.

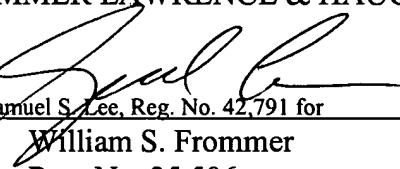
In the event that additional cooperation in this case may be helpful to complete its prosecution, the Examiner is cordially invited to contact Applicant's representative at the telephone number written below.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account 50-0320.

Respectfully submitted,

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